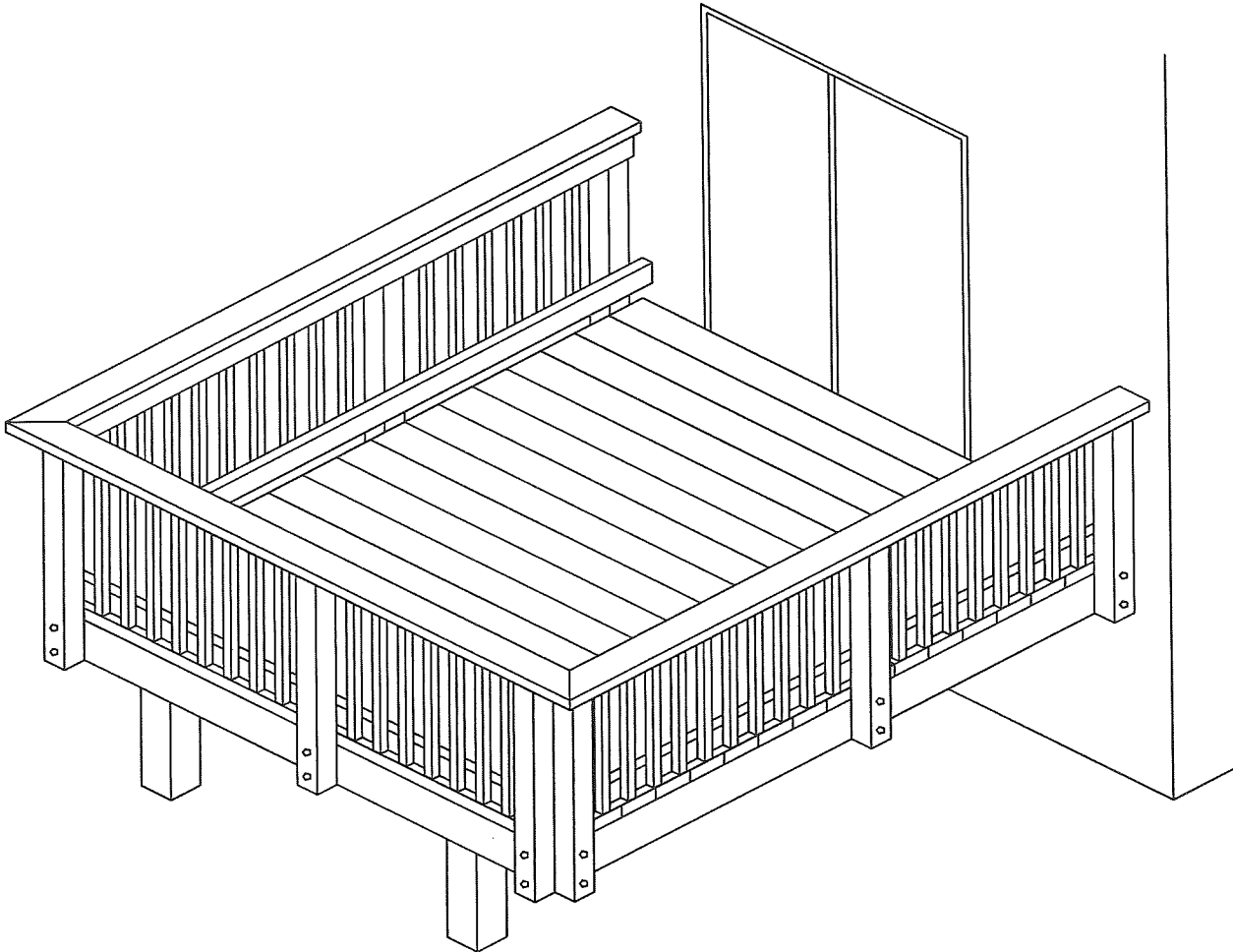


# *Georgia Amendments*

# Prescriptive Deck Details

Based on the 2012 International Residential Code



This design document applies to single-span, single-level residential decks only. Decks must be constructed in conformance with the details contained herein. A copy of this deck detail must be on the job site and available to the inspector during each required inspection.

## GENERAL REQUIREMENTS

1. Lumber shall be naturally durable wood or shall be southern pine, grade #2 or better that is pressure-preservative-treated in accordance with AWPA U1 for the species, product, preservative and end use. Field cut ends, notches and drilled holes of preservative treated wood shall be treated in the field in accordance with AWPA M4. Preservative- treated lumber in contact with the ground shall be rated as "ground-contact." **Please note: not all treated lumber is rated for ground contact.**
2. Wood-plastic composites are composed of bound wood and plastic fibers creating material that can be used as decking and guard elements as permitted herein. Permissible wood-plastic composites must bear a label indicating its performance criteria and compliance with ASTM D 7032.
3. Nails shall be ring-shanked or annular grooved.
4. Screws and nails shall be hot-dipped galvanized, stainless steel or approved for use with pressure treated lumber.
5. Hardware, e.g., joist hangers, cast-in-place post anchors, mechanical fasteners, shall be galvanized with 1.85 oz/sf of zinc (G-185 coating) or shall be stainless steel. Use products such as "Zmax" from Simpson Strong-Tie or "Triple Zinc" and "Gold Coat" from USP.
6. Electrical receptacles for decks shall comply with the currently approved edition of the National Electrical Code.
7. Lighting for decks and exterior stairs shall comply with IRC 303.7 Stairway Illumination.
8. Decks constructed in accordance with these details are not approved for privacy screens, planters, built-in seating or hot tub installations.

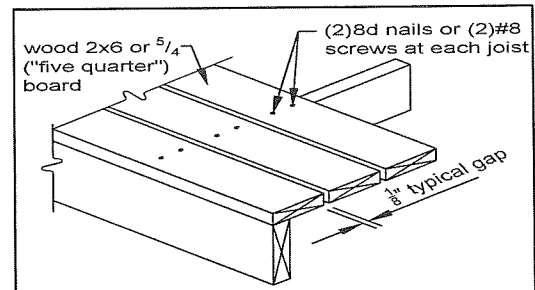
## DECKING

### Approved Material

Wood and wood-plastic composite decking shall be installed in accordance with the requirements below.

- Dimensions shall be 2x6 or  $\frac{5}{4}$  ("five-quarter") for wood and per manufacturer for wood-plastic composites.
- Wood decking may be placed at an angle of 45 to 90 degrees to the joists.
- Attach wood decking in accordance with FIGURE 1.

- Placement and attachment of wood-plastic composites shall be per manufacturer's instructions.



**FIGURE 1: TYPICAL DECKING**

- Wood-plastic composite label and manufacturer's instructions must be left on the jobsite for inspector verification.

### Plastic Decking

Plastic or PVC decking, not considered a wood-plastic composite, may be substituted only when the product has a valid evaluation report from an accredited listing agency and is capable of resisting a live load of 40 PSF. Installation shall be in conformance to the evaluation report and the manufacturer's installation instructions which must be available to the inspector. -

**TABLE 1: MAXIMUM JOIST SPAN LENGTH<sup>1</sup>**

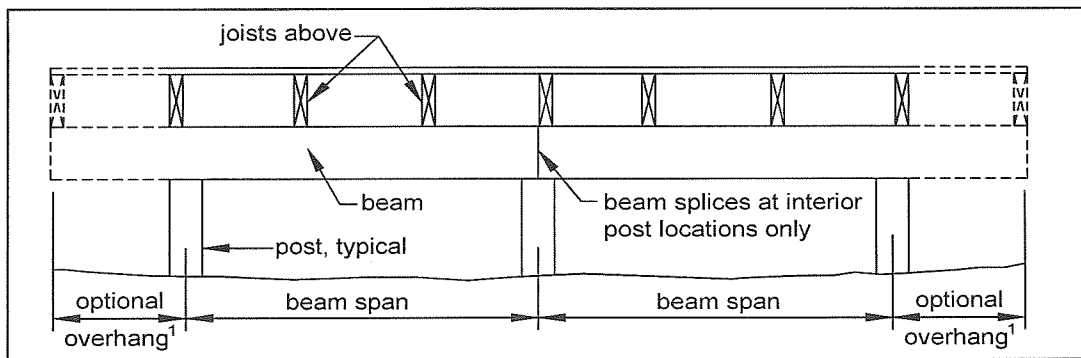
Joists without Overhangs				Joists with Overhangs			
Joist Spacing→ Joist Size↓	12"	16"	24"	Joist Spacing→ Joist Size↓	12"	16"	24"
2x8	13'-8"	12'-5"	10'-2"	2x8	10'-6"	10'-6"	10'-2"
2x10	17'-5"	15'-10"	13'-1"	2x10	15'-2"	15'-2"	13'-1"
2x12	18'-0"	18'-0"	15'-5"	2x12	18'-0"	18'-0"	15'-5"

<sup>1</sup> Spans are based on 40 PSF live load, 10 PSF dead load, southern pine #2, normal loading duration, wet service conditions and deflections of  $\Delta = \ell/360$  for main span and  $\ell/180$  for overhang.

## BEAMS

Beams shall be designed and assembled in accordance with the requirements below.

- As shown in FIGURE 5, beam span is measured between the centerlines of two adjacent posts.
- Beam size is determined using TABLE 2.
- Beams may overhang each end up to one-fourth of the beam span (0.25 x beam span) as shown in FIGURE 5.
- Using the members identified in TABLE 2, beams shall be assembled in accordance with FIGURE 6.
- Beam splices shall be located over interior post locations only.

**FIGURE 5: BEAM SPAN TYPES**

<sup>1</sup> The maximum length of the overhang is equal to one-fourth of the beam span length (0.25 x beam span).

**TABLE 2: MAXIMUM BEAM SPAN LENGTH<sup>1</sup>**

Beam Size→ Joist Span↓	(2)2x6	(2)2x8	(2)2x10	(2)2x12	(3)2x6	(3)2x8	(3)2x10	(3)2x12
≤ 6'	7'-1"	9'-2"	11'-10"	13'-11"	8'-7"	11'-4"	14'-5"	17'-5"
> 6' - 8'	6'-2"	7'-11"	10'-3"	12'-0"	7'-8"	9'-11"	12'-10"	15'-1"
> 8' - 10'	5'-6"	7'-1"	9'-2"	10'-9"	6'-11"	8'-11"	11'-6"	13'-6"
> 10' - 12'	5'-0"	6'-6"	8'-5"	9'-10"	6'-3"	8'-1"	10'-6"	12'-4"
> 12' - 14'	4'-8"	6'-0"	7'-9"	9'-1"	5'-10"	7'-6"	9'-9"	11'-5"
> 14' - 16'	4'-4"	5'-7"	7'-3"	8'-6"	5'-5"	7'-0"	9'-1"	10'-8"
> 16' - 18'	4'-1"	5'-3"	6'-10"	8'-0"	5'-2"	6'-7"	8'-7"	10'-1"

<sup>1</sup> Spans are based on 40 PSF live load, 10 PSF dead load, southern pine #2, normal loading duration, wet service conditions and deflections of  $\Delta = \ell/360$  for main span and  $\ell/180$  for overhang with a 230 lb. point load.

## JOIST-TO-BEAM CONNECTION

Each joist shall be attached to the beam as shown in FIGURE 8. Use Option 1 or Option 2 when joists bear on or overhang past the beam as shown in FIGURE 2 and FIGURE 4. Use Option 3 when joists attach to the side of the beam as shown in FIGURE 3; however, the joist depth must be less than or equal in depth to the beam depth. See *Joist Hangers* below for information on hanger requirements. Mechanical fasteners or hurricane clips used in Option 2 shall have a minimum capacity of 100 lbs. in both uplift and lateral load directions. See manufacturer's instructions for minimum installation requirements.

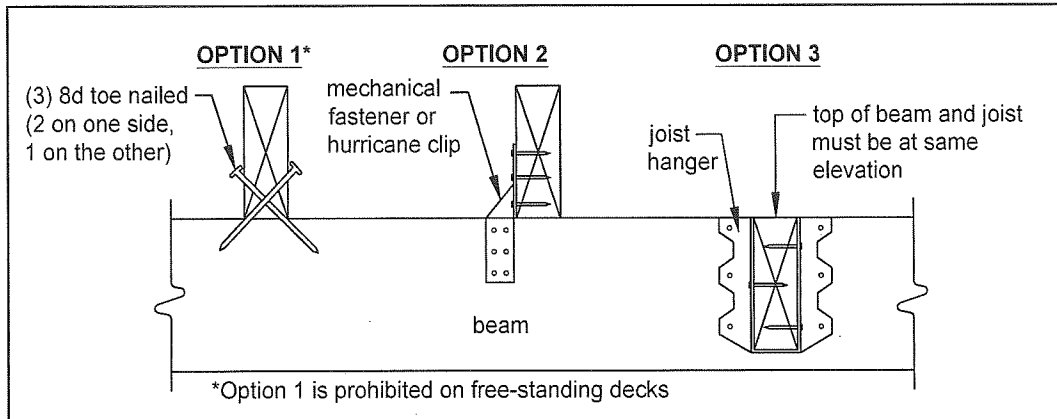


FIGURE 8: JOIST-TO-BEAM DETAIL

## JOIST HANGERS

Joist hangers, as shown in FIGURE 9, shall have a minimum capacity of 600 lbs. for 2x8s, 700 lbs. for 2x10s and 800 lbs. for 2x12s. The joist hanger shall be designed and manufactured for the number of plies it is carrying.

Use joist hangers with inside flanges when clearances to the edge of the beam or ledger board dictate.

**Do not use clip angles or brackets to support framing members. Do not bend hanger flanges to accommodate field conditions.**

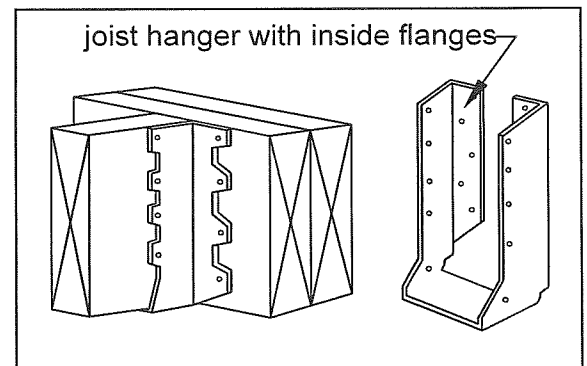


FIGURE 9: TYPICAL JOIST HANGERS

## POSTS

Deck posts shall be 6x6 with a maximum height of 14'-0" measured from the top of the footing to the underside of the beam. The beam shall be attached to the post by one of the methods shown in FIGURE 11. The attachment condition shown in FIGURE 10 is prohibited.

The post cap shown in FIGURE 11, Option 2 shall be specifically designed for two- or three-ply beams and 6x6 posts with a minimum downward allowable load capacity of 5,000 lbs. Attachment shall be per manufacturer's instructions. Post caps shall be galvanized per the requirements noted on Sheet 3. 4x4 & 4x6 posts can be used if tributary loading values are calculated by a design professional.

**Cut ends of posts shall be field treated with a wood preservative containing copper naphthenate in accordance with AWPA M4. Such products can be found in the paint department of most hardware or home center stores.**

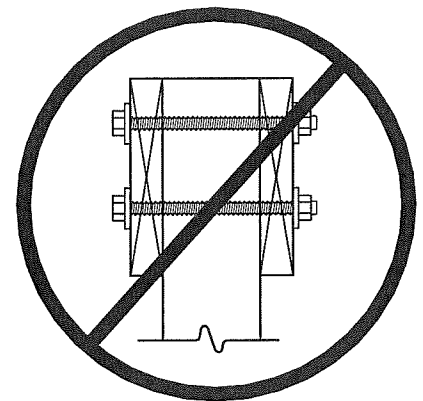
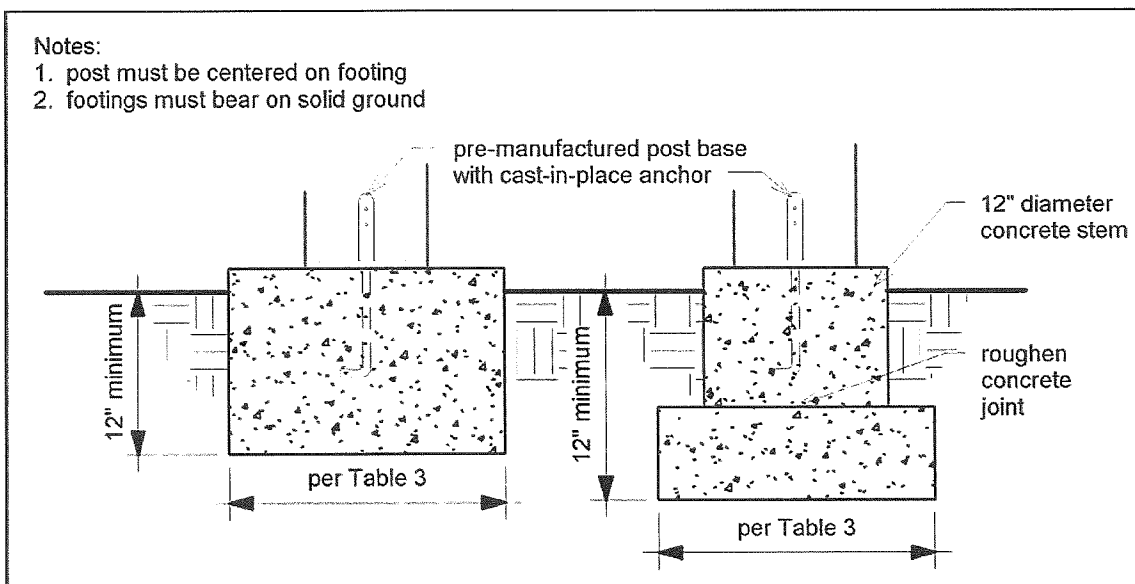


FIGURE 10: PROHIBITED POST-TO-BEAM ATTACHMENT



**FIGURE 12: TYPICAL FOOTING OPTIONS**

### LEDGER ATTACHMENTS

Ledger boards shall be attached to the existing house in accordance with the requirements below.

- The depth of a ledger board shall be greater than or equal to the depth of the joists.
- The attachment shall be in accordance with FIGURE 14.
- The band board of the existing structure shall be capable of supporting the new deck. If this cannot be verified or conditions at the existing house differ from the details herein, then a free-standing deck is required. See Free-Standing Decks on Sheet 14.
- **Compliance with all the requirements herein is critical to ensure the safety and structural stability of your deck.**

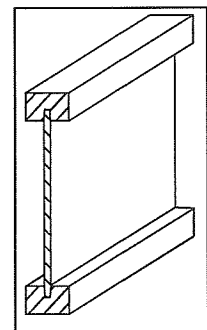
#### Siding and Flashing

Flashing shall be installed in accordance with the requirements below.

- **The exterior finish, i.e., house siding, must be removed prior to the installation of the ledger board.**
- Continuous flashing with a drip edge, as shown in FIGURE 14, is required at the ledger board when connected to a wood band board.
- Flashing shall be composed of copper (attached using copper nails only), stainless steel, UV resistant plastic or galvanized steel coated with 1.85 oz/sf of zinc (G-185 coating).
- Flashing at a door threshold shall be installed so as to prevent water intrusion from rain or melting ice and snow.

#### Wood I-Joists

Many homes constructed with wood I-joists, as shown in FIGURE 13, have a 1" or thicker engineered wood product (EWP) band board capable of supporting a deck; see FIGURE 14. If a minimum 1" EWP or 2x band board is not present, then a free-standing deck is required. See Free-Standing Decks on Sheet 14 for more information.

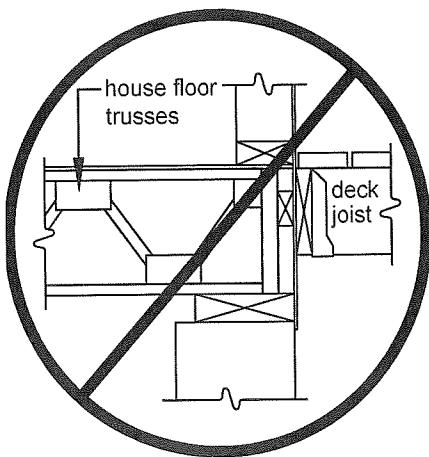


**FIGURE 13: WOOD I-JOIST PROFILE**

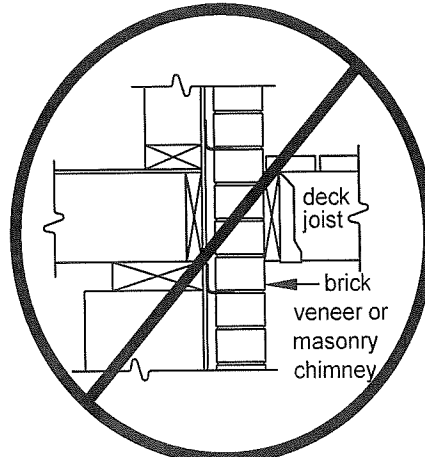
## PROHIBITED LEDGER ATTACHMENTS

The ledger board attachment conditions shown

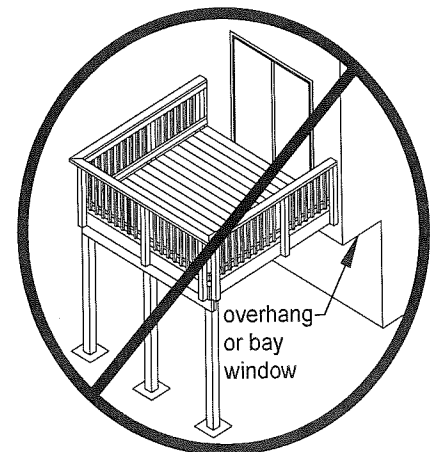
FIGURE 17 through FIGURE 19 below are strictly prohibited. In such cases the deck shall be free-standing. See FREE-STANDING DECKS on Sheet 14.



**FIGURE 17: FLOOR TRUSSES**



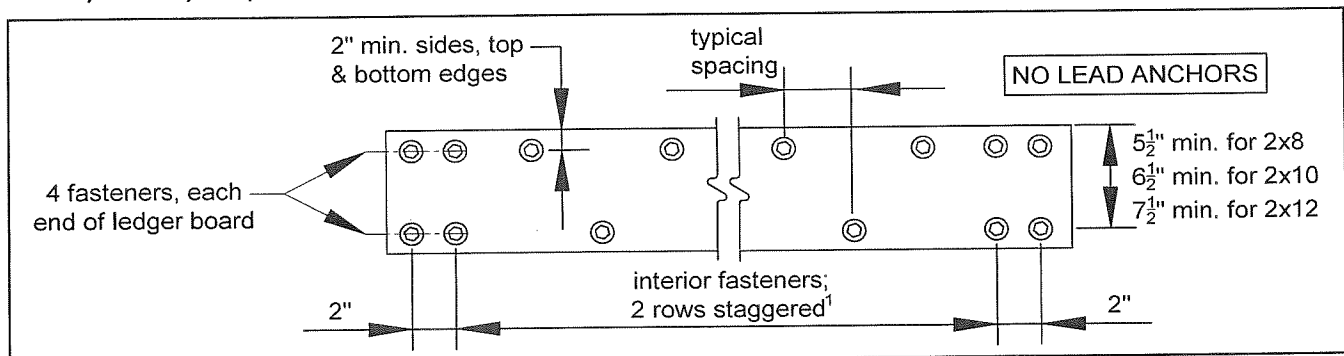
**FIGURE 18: BRICK VENEER**



**FIGURE 19: HOUSE OVERHANG**

## LEDGER BOARD FASTENERS

Ledger board fasteners shall be installed in accordance with FIGURE 20 and the on center spacing in TABLE 4. Only those fastener types noted herein are approved for use. Adequacy of connections will be verified by county inspectors.



**FIGURE 20: LEDGER BOARD FASTENER SPACING AND CLEARANCES**

<sup>1</sup> Additional interior fasteners are required at chimney or bay window; see FIGURE 21.

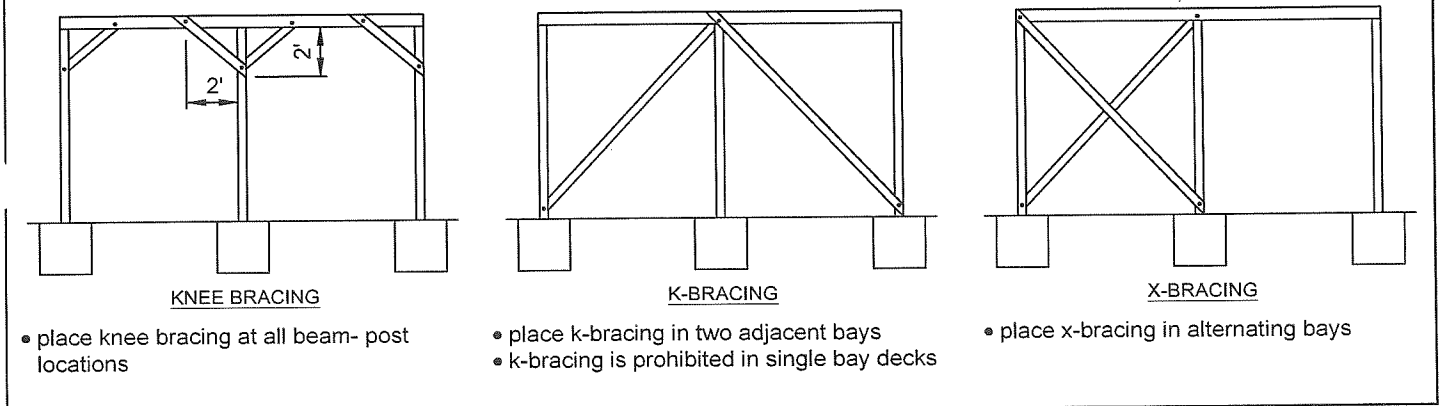
**TABLE 4: LEDGER BOARD FASTENER SPACING, ON CENTER**

Fastener↓	Joist Span→ Band Board↓	≤6'	>6'-8'	>8'-10'	>10'-12'	>12'-14'	>14'-16'	>16'-18'
Through Bolts	EWP <sup>1</sup>	24"	18"	14"	12"	10"	9"	8"
	2x lumber	36"	36"	34"	29"	24"	21"	19"

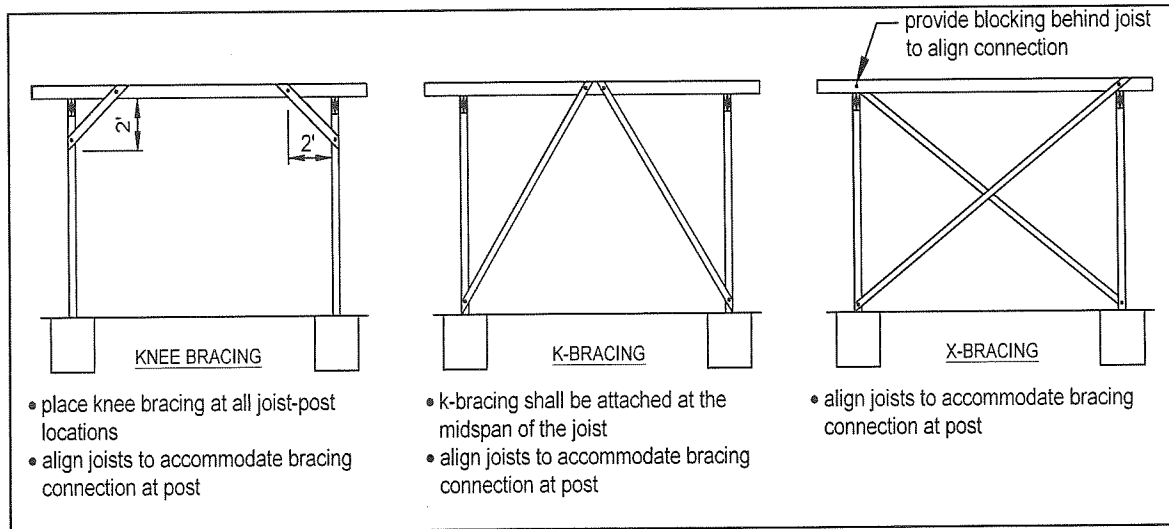
<sup>1</sup> EWP = 1" minimum manufactured engineered wood product; see Sheet 9 for more information.

### Through-Bolts

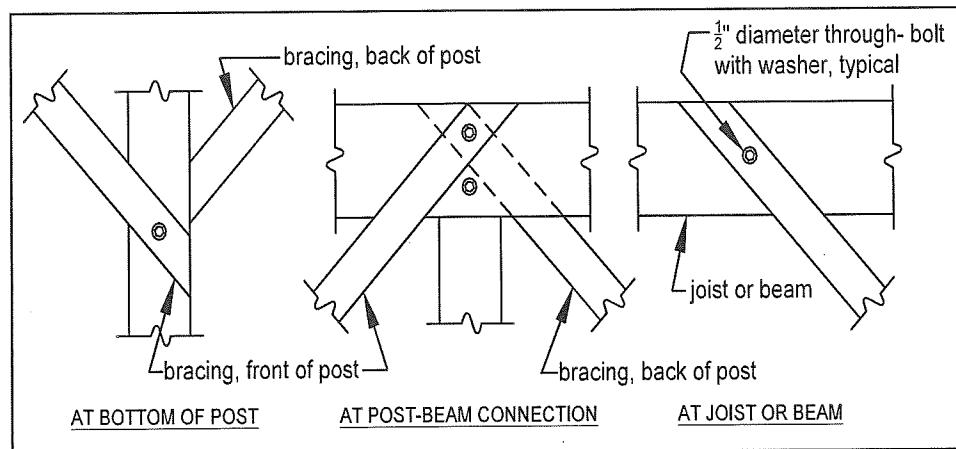
Through-bolts shall have a minimum diameter of  $\frac{1}{2}$ ". Pilot holes for through-bolts shall be  $\frac{17}{32}$ " to  $\frac{9}{16}$ " in diameter. Through-bolts must be equipped with washers at the bolt-head and nut.



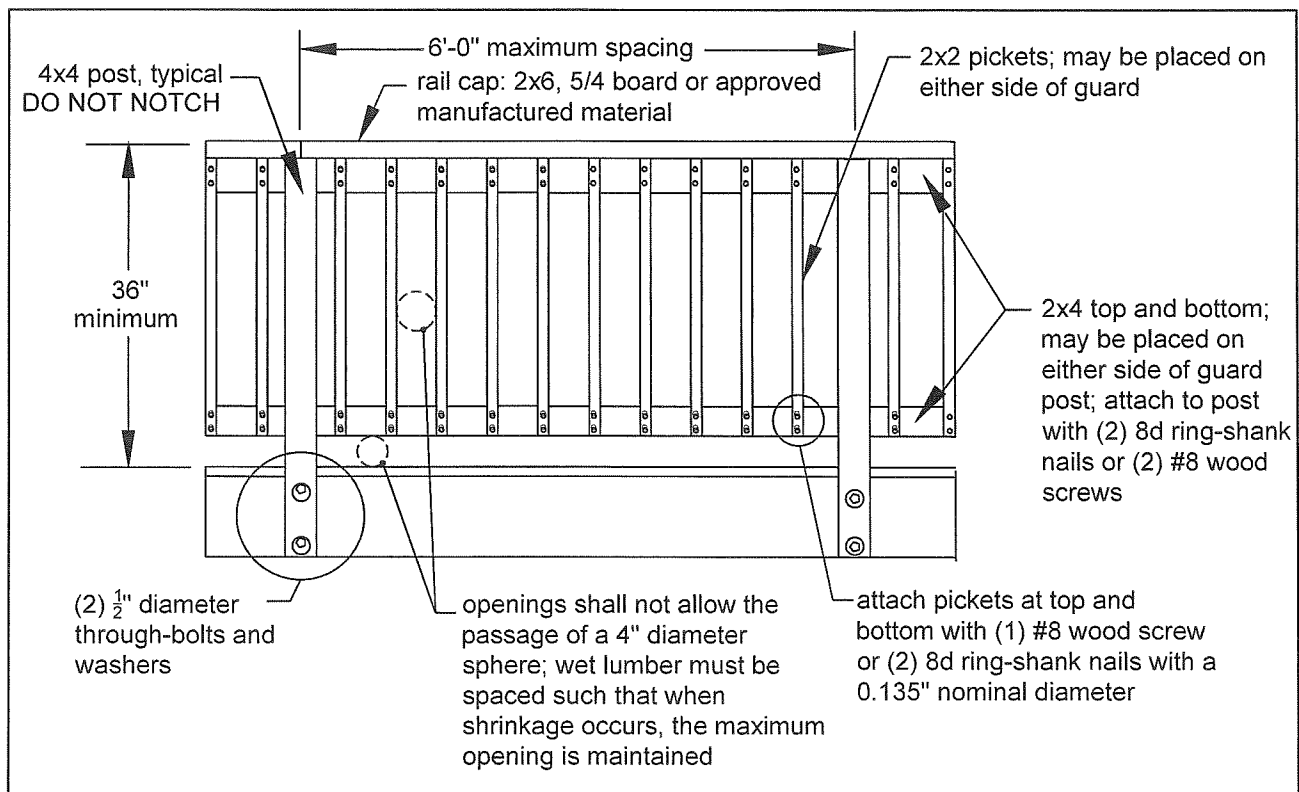
**FIGURE 22: DIAGONAL BRACING AT BEAM-POST LOCATIONS  
(all decks)**



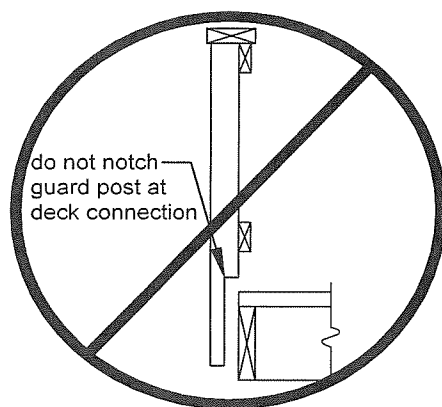
**FIGURE 23: DIAGONAL BRACING AT JOISTS-POST LOCATIONS  
(free-standing decks only)**



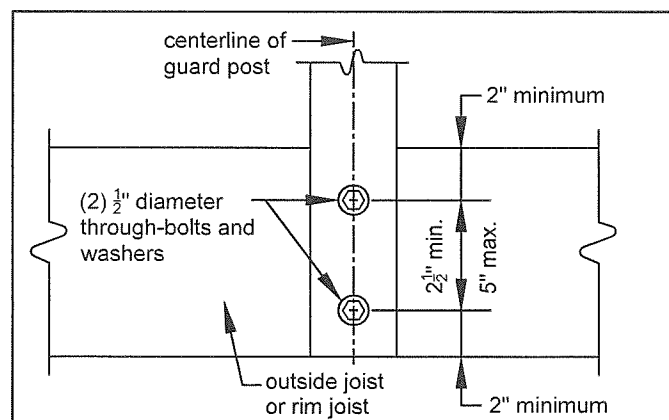
**FIGURE 24: TYPICAL CONNECTIONS OF DIAGONAL MEMBERS**



**FIGURE 27: TYPICAL GUARD DETAIL**



**FIGURE 28: NOTCHING AT GUARD POSTS**



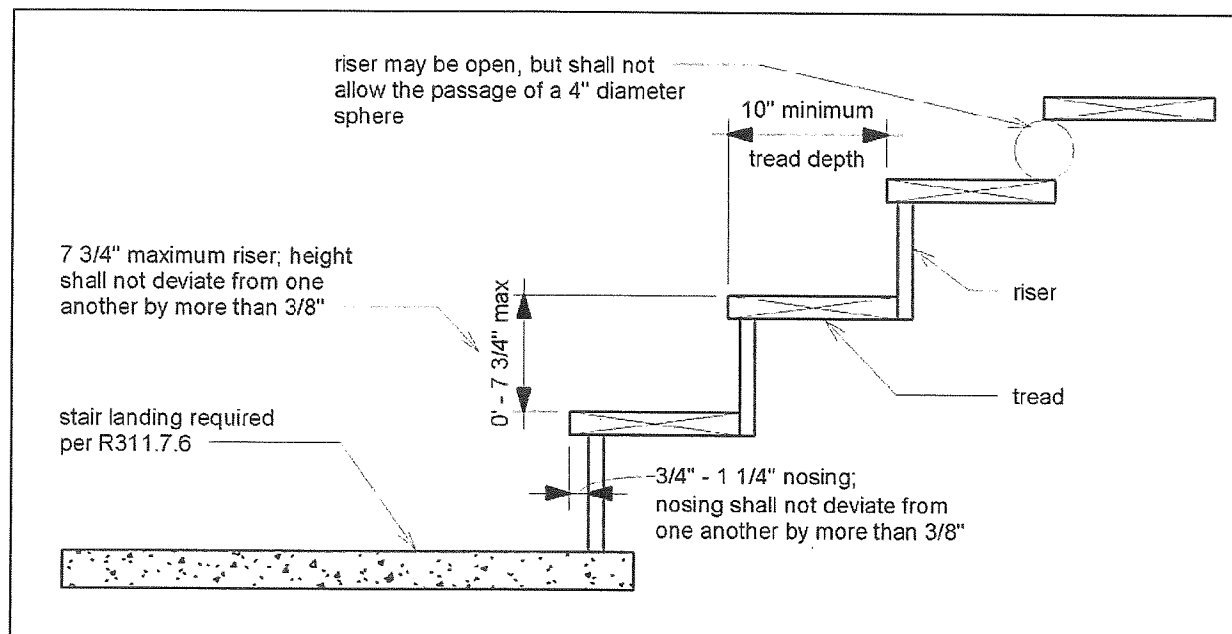
**FIGURE 29: GUARD POST ATTACHMENT DETAIL**

### GUARD POST ATTACHMENTS

Guard posts must be attached in accordance with the requirements below.

- Guard posts must be fastened to the framing in order to ensure the entire guard can resist imposed loads.
- Hold-down anchors, as shown in FIGURE 30 and FIGURE 31, shall be used to attach the guard post to the outside joist and rim joist, respectively.
- Hold-down anchors shall have an 1,800 lb. minimum capacity and shall be galvanized per the requirements on Sheet 3.
- Guard posts may be attached to either side of the rim joist or outside joist.



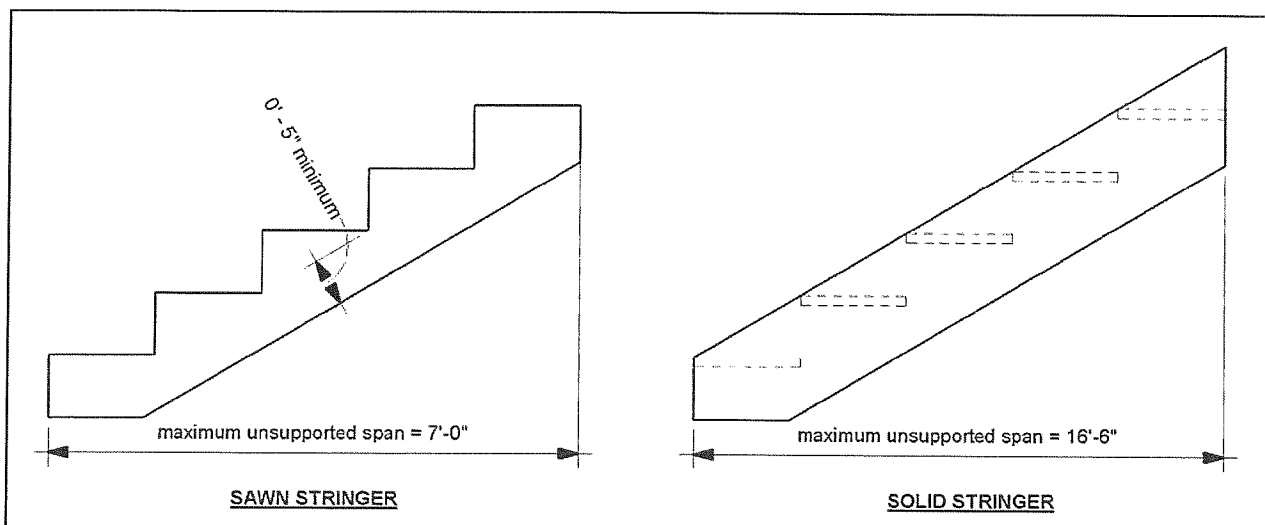


**FIGURE 32: TREAD AND RISER DETAIL**

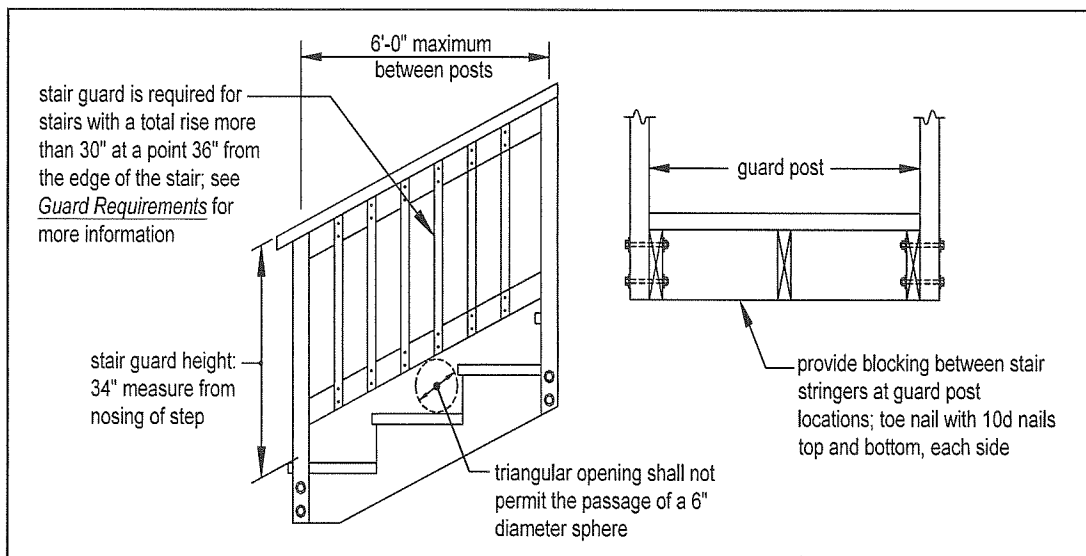
### Stair Stringers

Stringers shall be constructed in accordance with the following requirements.

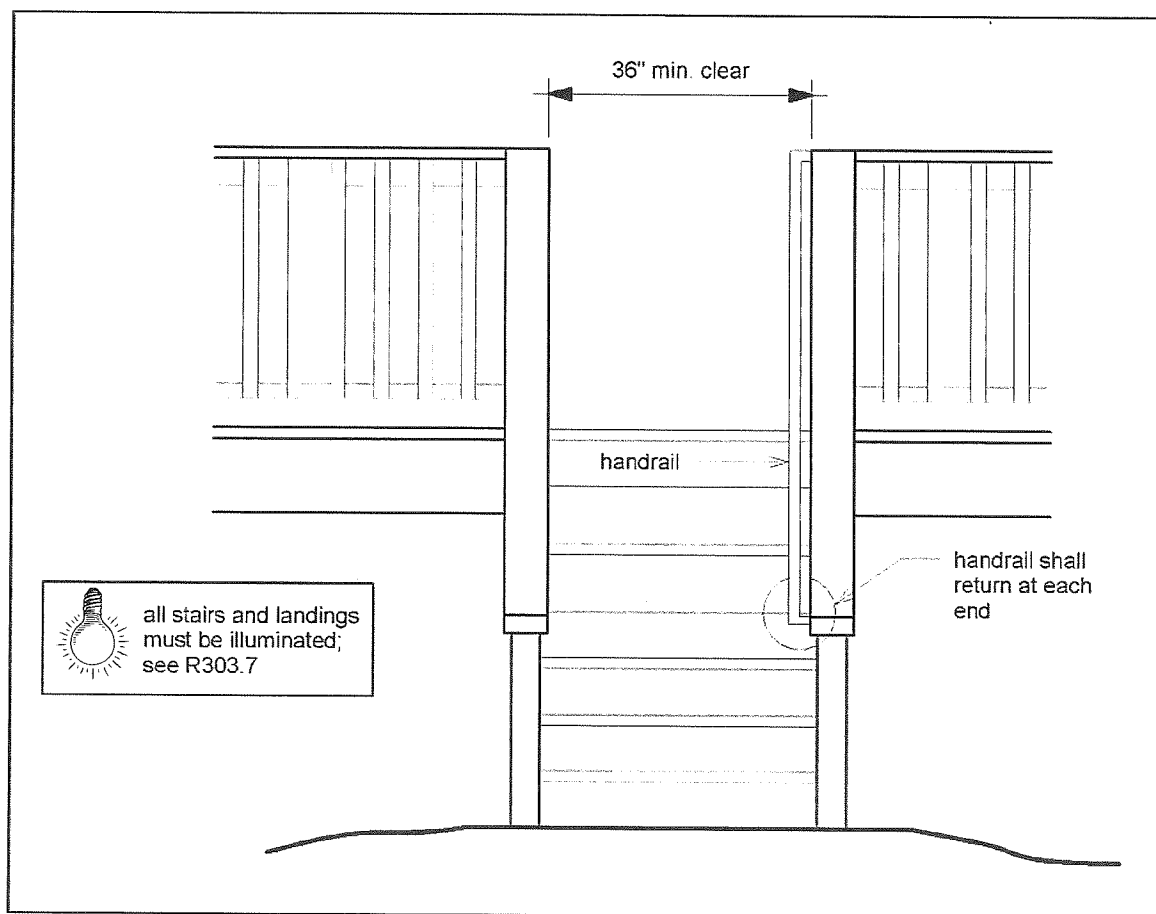
- Stringers shall be continuous sawn or solid 2x12s meeting the stair geometry requirements shown in FIGURE 32.
- Attach stringers to the deck per FIGURE 34.
- Stringers shall be spaced at a maximum of 18" on center.
- Measured horizontally, the maximum horizontal stringer spans shall not exceed the lengths shown in FIGURE 33.
- Stringers with spans greater than maximum allowed shall be supported with 4x4 posts along their length to create multiple compliant spans. The 4x4 post shall be notched and bolted to the stringer with (2)  $\frac{1}{2}$ " diameter through-bolts with washers per FIGURE 11, Option 1. The post shall be centered on a 10" diameter or 8" square, 4" thick footing 12" below grade and be attached per FIGURE 12.
- Intermediate landings may also be provided to shorten the stringer span; see Stair Landings on Sheet 18.



**FIGURE 33: STAIR STRINGER REQUIREMENTS**



**FIGURE 36: STAIR GUARD REQUIREMENTS**



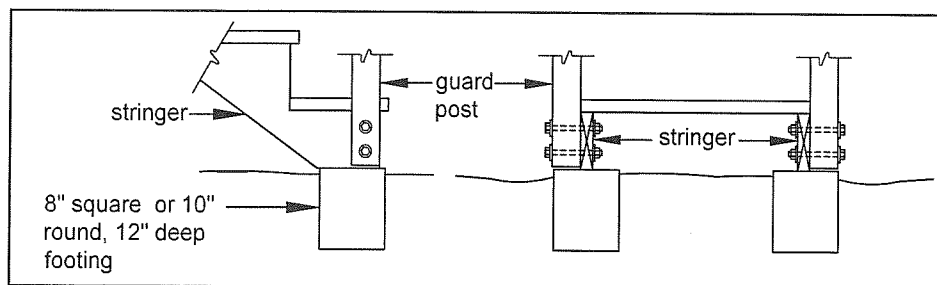
**FIGURE 39: MISCELLANEOUS STAIR REQUIREMENTS**

**Stair Lighting**

Stairways shall be illuminated in accordance with IRC 303.7.

**Stair Stringer Footings**

Stair stringers at grade shall bear on a concrete footing as shown in FIGURE 40. The footings for each stringer may be combined and poured as a 12" deep slab.



**FIGURE 40: STAIR STRINGER FOOTING**